

**WHAT IS CLAIMED IS:**

1. A format for the optical analysis of a sample comprising:  
a first format component having at least one first format component pin, at least one first format component hole, a first inlet surface, and a first read surface; and  
5 a second format component having at least one second format component pin, at least one second format component hole, a second inlet surface, and a second read surface;  
said at least one first format component pin being inserted into said at least one second format component hole and said at least one second format component pin being  
10 inserted into said at least one first format component hole such that said first read surface and said second read surface align to form a read area and said first inlet surface and said second inlet surface align to form a capillary gap.
2. The format of claim 1 wherein said first format component comprises a first format component inner surface and said second format component comprises a  
15 second format component inner surface, said at least one first format component pin and said at least one second format component hole meeting at at least one first pin-hole meeting interface and said at least one second format component pin and said at least one first format component hole meeting at at least one second pin-hole meeting interface, each of said first and second pin-hole interfaces being joined with adhesive, with  
20 substantially no adhesive being provided between said first format component inner surface and said second format component inner surface.
3. The format of claim 1 wherein said first read surface and said first inlet surface are disposed within a first format component cavity and said second read surface and said second inlet surface are disposed within a second format component cavity.
- 25 4. The format of claim 1 wherein said first and second format components are optically clear, said first format component comprises a first format component inner surface and a first format component outer surface and said second format component comprises a second format component inner surface and a second format component outer surface, said first format component having a first optical window disposed on said  
30 first format component outer surface and approximately aligned with said first read surface, and said second format component having a second optical window disposed on

said second format component outer surface and approximately aligned with said second read surface, said first optical window, said read area, and said second optical window aligning to form an optical path.

5        5.        The format of claim 1 wherein said first format component comprises first and second first component slots disposed on first and second side surfaces of said first optical component.

6.        The format of claim 5 wherein said second format component comprises first and second second-component slots disposed on first and second side surfaces of said second optical component.

10        7.        The format of claim 1 wherein said second format component is approximately identical to said first format component.

8.        The format of claim 1 wherein said first format component comprises a first format component inner surface and said second format component comprises a second format component inner surface, said first format component pin and said second  
15        format component hole meet at a first pin-hole meeting interface and said second format component pin and said first format component hole meet at a second pin-hole meeting interface, each of said first and second pin-hole interfaces being joined with sonic welds.

9.        The format of claim 1 wherein said first format component is optically clear and comprises a read window aligned with said first read surface.

20        10.        The format of claim 1 wherein said first format component comprises a first inner format surface, said second component comprises a second inner format surface, and said first and second format components are held together via friction between aligning pairs of said holes and pins forming an interface between said first  
25        inner format surface and said second inner format surface, such that said first inner format surface and said second inner format surface abut one another substantially completely, said interface between said first inner format surface and said second inner format surface being substantially free of adhesive or other intervening material.

11.        A method of forming a format for the optical analysis of a sample comprising:

30        forming a first format component comprising a first format component pin, a first format component hole, a first inlet surface, and a first read surface;

forming a second format component comprising a second format component pin,  
a second format component hole a second inlet surface, and a second read surface;

aligning said first and second format components such that said first inlet surface  
is approximately aligned with said second inlet surface and said first read surface is  
5 approximately aligned with said second read surface;

inserting said first format component pin into said second format component  
hole; and

inserting said second format component pin into said first format component  
hole.

10 12. The method of claim 11 further comprising applying adhesive to at least  
one of said first format component pin, said first format component hole, said second  
format component pin and said second format component hole.

13. The method of claim 11 further comprising sonically welding at least one  
of said first and second component pins to its corresponding format component hole.

15 14. The method of claim 11 wherein at least one of forming said first format  
component and forming said second format component comprises molding slots into said  
at least one component and molding the format component between first and second  
ribbons.

20 15. The method of claim 11 wherein at least one of forming said first format  
component and said second format component comprises forming said component as part  
of a chain of format components.

16. The method of claim 11 further comprising applying a reagent to at least  
one of said first read surface and said second read surface.

25 17. The method of claim 11 wherein said first format component is optically  
clear and further comprises a read window approximately aligned with said first read  
surface.

30 18. The method of claim 11 wherein said first and second format components  
are optically clear and wherein said first format component comprises a first read  
window approximately aligned with said first read surface and said second format  
component comprises a second read window approximately aligned with said second  
read surface.

19. A format for the optical analysis of a sample comprising:  
a first format component having at least one first format component pin, a first  
format component inner surface, a first inlet surface, and a first read surface; and  
a second format component having at least one second format component hole, a  
5 second format component inner surface, a second inlet surface, and a second read  
surface;

wherein said first format component pin is inserted into said second format  
component hole, said first format component inner surface and said second format  
component inner surface abut at an inner surface interface, said second inlet surface and  
10 said first inlet surface align to form a capillary gap, and said first read surface and said  
second read surface align to form a read area.

20. The format of claim 19 wherein said first format component inner surface  
and said second format component inner surface abut each other substantially completely  
and said inner surface interface is substantially free of adhesive or other intervening  
15 material.

21. The format of claim 19 wherein said first read surface and said first inlet  
surface are disposed within a first format component cavity and said second read surface  
and said second inlet surface are disposed within a second format component cavity..

22. The format of claim 19 wherein said first and second format components  
20 are optically clear, said first format component further comprises a first format  
component outer surface and said second format component further comprises a second  
format component outer surface, said first format component having a first optical  
window disposed on said first format component outer surface and approximately  
aligned with said first read surface, and said second format component having a second  
25 optical window disposed on said second format component outer surface and  
approximately aligned with said second read surface, said first optical window, said read  
area, and said second optical window aligning to form an optical path.

23. The format of claim 19 wherein said first format component comprises  
first and second first component slots disposed on first and second side surfaces of said  
30 first optical component.

24. The format of claim 23 wherein said second format component comprises first and second second-component slots disposed on first and second side surfaces of said second optical component.

5 25. The format of claim 19 wherein said at least one first format component pin is adhesively attached to said at least one second format component hole.

26. The format of claim 19 wherein said at least one first format component pin is sonically welded into said at least one second format component hole.